1. A platen for chemical mechanical planarization (CMP) of a wafer having a disk-like configuration, comprising:

a platen body configured with a leading edge, a main surface comprising a disk-like configuration corresponding to that of the wafer and extending from adjacent to the leading edge along a radius to a center of the disk-like configuration of the main surface, and a shim configured with an outer circular shim wall surrounding the disk-like configuration of the main surface to define a chamber, the shim being further configured so that during a CMP operation a wafer peripheral edge is vertically aligned with the outer shim, the shim being further configured with an inner shim wall;

the platen body being further configured with a cluster of fluid inlets surrounded by the inner wall and positioned adjacent to both the leading edge and the inner shim wall; and

the main surface being continuous within the inner shim wall and around the cluster of fluid inlets.

2. A platen as recited in claim 1, wherein the platen has a removal rate characteristic during the CMP operation, the removal rate characteristic being a variation of a rate of material removed from the wafer as a function of location along a polished surface of the wafer, the characteristic including an inflection point at which a relatively constant removal rate suddenly changes to an increased removal rate adjacent to the wafer peripheral edge, and wherein the configuration of the platen body positions the cluster of fluid inlets relative to the inner shim wall so that the inflection point is located at a predetermined location relative to the wafer peripheral edge.

3. A platen as recited in claim 1, wherein the platen has a removal rate characteristic during the CMP operation, the removal rate characteristic having at least one parameter and being a variation of a rate of material removed from the wafer as a function of location along a polished surface of the wafer between a center of the wafer and the wafer peripheral edge, the at least one parameter including an inflection point at which a relatively constant removal rate suddenly changes to an increased removal rate, and wherein:

the platen body is further configured to control values of the increased removal rate as a function of distance between the inflection point and the wafer peripheral edge, the further configuration being by configuring the fluid inlets of the cluster of fluid inlets relative to the inner wall of the shim, the cluster of fluid inlets comprising a plurality of fluid inlets spaced from each other in a closely-packed group and configured within the group to control values of the increased removal rate between the inflection point and the wafer peripheral edge.

4. A platen as recited in claim 3, wherein the configuration of the cluster of fluid inlets within the closely-packed group is taken from the group consisting of:

a series of concentric circles centered on the radius, a series of fluid inlets arranged along an arc extending generally parallel to the inner wall of the shim and centered on the radius, and an array of fluid inlets arranged along each of a plurality of arcs that extend generally parallel to the inner wall of the shim, wherein each of the arcs is centered on the radius.

5. A platen as recited in claim 4, wherein the plurality of arcs are configured with a first arc closely adjacent to the inner shim wall and at least one additional arc spaced from the first arc toward the center, and wherein the fluid inlets along the first arc are more closely spaced than the fluid inlets along the additional arc.

6. A platen as recited in claim 5, wherein the at least one additional arc are a second and a third arc, wherein the second arc is spaced from the first arc toward the center, wherein the third arc is spaced from the second arc toward the center, and wherein the fluid inlets along the first arc are more closely spaced than the fluid inlets along the second arc, and wherein the fluid inlets along the second arc are more closely spaced than the fluid inlets along the third arc.

7. A platen as recited in claim 1, wherein the platen has a removal rate characteristic during the CMP operation, the removal rate characteristic being a variation of a rate of material removed from the wafer as a function of location along a polished surface of the wafer, the characteristic including an inflection point at which a relatively constant removal rate suddenly changes to an increased removal rate adjacent to the peripheral edge of the wafer, and wherein the configuration of the platen body with the cluster of fluid inlets is a configuration with a first cluster of fluid inlets and with a second cluster of fluid inlets separate from the first cluster, the first cluster being surrounded by the inner wall and positioned adjacent to both the leading edge and the inner shim wall, the first cluster being located adjacent to the radius, the second cluster being surrounded by the inner wall and positioned between the first cluster and the center closely adjacent to the first cluster and located adjacent to the radius, the main surface being continuous within the inner shim wall and around each of the first and second clusters of fluid inlets, the

location of the second cluster of fluid inlets being effective to position the inflection point at a predetermined location relative to the wafer peripheral edge.

8. A platen as recited in claim 1, wherein the platen has a removal rate characteristic during the CMP operations, the removal rate characteristic having various parameters and being a variation of a rate of material removed from the wafer as a function of location along a polished surface of the wafer between a center of the wafer and the peripheral edge of the wafer, the parameters including an inflection point at which a relatively constant removal rate suddenly changes to an increased removal rate adjacent to the wafer peripheral edge, and wherein:

the platen body is further configured to control values of the increased removal rate as a function of distance between the inflection point and the wafer peripheral edge, the further configuration being by providing a second cluster of fluid inlets adjacent to the first-recited cluster, the second cluster being positioned between the first-recited cluster and the center and closely adjacent to the first-recited cluster, the platen body configuration to control the values being a configuration of the fluid inlets of the first-recited and second clusters of fluid inlets relative to the inner wall of the shim, each of the first-recited and second clusters of fluid inlets comprising a plurality of fluid inlets spaced from each other in a closely-packed group, each closely-packed group being configured within the group and relative to the other group to control the values of the increased removal rate between the inflection point and the peripheral edge.

9. A platen for chemical mechanical planarization (CMP) of a wafer having a disk-like configuration, comprising:

a platen body configured with a leading edge, a main surface comprising a disk-like configuration corresponding to that of the wafer and extending from adjacent to the leading edge along a first radius to a center of the disk-like configuration of the main surface and along a second radius to a trailing edge, and a shim configured with an inner shim wall surrounding the disk-like configuration of the main surface to define a chamber, the shim being further configured with an outer shim wall that during a CMP operation is vertically aligned with a peripheral edge of the wafer, a third radius extending from the center at a first angle with respect to the second radius and extending to the inner shim wall, a fourth radius extending from the center at a second angle with respect to the second radius and extending to the inner shim wall;

the platen body being further configured with a first cluster of fluid inlets located adjacent to both the leading edge and the first radius;

the platen body being further configured with a second cluster of fluid inlets located adjacent to both the trailing edge and the third radius;

the platen body being further configured with a third cluster of fluid inlets located adjacent to both the trailing edge and the fourth radius; and

the main surface being continuous within the inner shim wall and around all of the clusters of fluid inlets.

10. A platen as recited in claim 9, wherein the platen body is further configured with respective fourth, fifth, and sixth additional clusters of fluid inlets between the center and each of the respective first cluster of fluid inlets, second cluster of fluid inlets, and third cluster of fluid inlets, and wherein the main surface is continuous within the inner shim wall and around the first cluster of fluid inlets and around the respective fourth additional cluster of fluid inlets and around the second cluster of fluid inlets and around the respective fifth additional cluster of fluid inlets and around the third cluster of fluid inlets and around the respective sixth cluster of fluid inlets.

11. A platen as recited in claim 10, wherein the platen is configured to have a removal rate characteristic during the CMP operation, the removal rate characteristic having a plurality of parameters and being a variation of a rate of material removed from the wafer as a function of location along a polished surface of the wafer, the parameters including an inflection point at which a relatively constant removal rate suddenly changes to an increased removal rate at a location adjacent to the peripheral edge of the wafer, and wherein the configuration of the platen body locates the respective clusters of fluid inlets so that the inflection point is positioned at a predetermined location relative to the peripheral edge of the wafer.

12. A platen as recited in claim 11, wherein the respective first and fourth clusters of fluid inlets and the respective second and fifth clusters of fluid inlets and the respective third and sixth clusters of fluid inlets are configured with a plurality of the fluid inlets arranged to provide a desired shape of the removal rate between the inflection point and the peripheral edge of the wafer.

13. A platen as recited in claim 11, wherein the respective plurality of the fluid inlets of the respective first and fourth clusters of fluid inlets and of the respective second and fifth clusters of fluid inlets and of the respective third and sixth clusters of fluid inlets are configured to provide a desired shape of the removal rate characteristic between the inflection point and the peripheral edge of the wafer according to a ratio of a first pressure to a second pressure, the first pressure being a pressure of fluid applied to the respective first, second and third clusters, the second pressure being a pressure of fluid applied to the respective fourth, fifth and sixth clusters.

14. A platen as recited in claim 13, wherein a value of the first pressure exceeds a value of the second pressure, and a sum of the first and second pressures exceeds a pressure applied to the wafer during the CMP operation.

15. A platen as recited in claim 12, wherein each of the clusters of fluid inlets comprises a plurality of fluid inlets spaced from each other in a closely-packed group and configured within the group to control values of the increased removal rate between the inflection point and the peripheral edge of the wafer, wherein the configuration of each closely-packed group of fluid inlets within the respective closely-packed group is taken from the group consisting of:

a series of concentric circles centered on the radius, a series of fluid inlets arranged along an arc extending generally parallel to the inner wall of the shim and centered on the radius, and an array of fluid inlets arranged along each of a plurality of arcs that extend generally parallel to the inner wall of the shim, wherein each of the arcs is centered on the radius.

16. A platen as recited in claim 16, wherein the plurality of arcs are configured with a first arc closely adjacent to the inner shim wall and at least one additional arc spaced from the first arc toward the center, and wherein the fluid inlets along the first arc are more closely spaced than the fluid inlets along the additional arc.

17. A platen as recited in claim 16, wherein the at least one additional arc are a second and a third arc, wherein the second arc is spaced from the first arc toward the center, wherein the third arc is spaced from the second arc toward the center, and wherein the fluid inlets along the first arc are more closely spaced than the fluid inlets along the second arc, and wherein the fluid inlets along the second arc are more closely spaced than the fluid inlets along the third arc.

18 . A system for supporting a polishing pad in CMP operations performed on a wafer having a peripheral edge, comprising:

a platen body configured with a relatively flat upper surface and a leading edge;

an annularly-shaped shim having an inner shim wall and an outer shim wall, the shim being secured to and extending above the relatively flat upper surface to define a central wafer support bounded by the outer shim wall, the shim being configured to conform to the wafer by being configured with an outer shim wall diameter corresponding to a diameter of the wafer;

separate inner and outer clusters of air inlet holes extending through the flat upper surface at respective inner and outer cluster locations on the platen body, the cluster locations being within the central wafer support, the flat upper surface being continuous within the central wafer support and around the respective outer and inner clusters, the outer cluster location being closely adjacent to the inner shim wall, the inner cluster location being between the outer cluster location and a center of the central wafer support and closely adjacent to the outer cluster location, the inner cluster location being configured to position an inflection point at a selected location adjacent to the peripheral edge, the inflection point being a location at which a relatively constant removal rate suddenly changes to an increased removal rate, wherein the respective fluid inlets of the respective inner and outer clusters of fluid inlets are configured to provide a desired shape of the removal rate between the inflection point and the peripheral edge according to a ratio of a first pressure to a second pressure;

a source of pressurized air; and.

a controller system configured to separately connect the clusters to the source and apply the first and second pressures, the first pressure being an air pressure separately

applied to the air inlet holes of the respective outer cluster, the second pressure being an air pressure separately applied to the air inlet holes of the respective inner cluster, wherein a desired removal rate characteristic is obtained during the chemical mechanical planarization of the wafer.

19. A platen as recited in claim 18, wherein each of the outer and inner clusters of air inlet holes comprises a plurality of air inlet holes, the air inlet holes of one cluster being spaced from each other in a closely-packed group and configured within the group to respond to the respective first and second pressures to control values of the increased removal rate between the inflection point and the peripheral edge, wherein the configuration of each closely-spaced group of air inlets within the closely-packed group is taken from the group consisting of:

a first series of air inlets arranged along concentric circles centered on the radius, a second series of air inlets arranged along an arc extending generally parallel to the inner wall of the shim and centered on the radius, and a third series of air inlets arranged along each of a plurality of arcs that extend generally parallel to the inner wall of the shim, wherein each of the arcs of the third series is centered on the radius and those arcs are located at progressively greater distances from the inner shim wall.

20. A platen as recited in claim 19, wherein each of the first, second and third series of air inlets is configured so that an amount of air admitted through the air inlets varies with the distance of the air inlets from the shim, the configuration being to progressively admit more air from the air inlets as the air inlets are spaced less and less from the shim.

21. A method for controlling pressure beneath a polishing pad in a CMP operation to define desired parameters of a CMP removal rate characteristic, the method comprising the operations of:

defining an enclosed volume under the polishing pad at a location at which a wafer is to be urged onto the polishing pad, the enclosed volume having a continuous perimeter corresponding to a peripheral edge of the wafer to provide a polishing pad support aligned with the peripheral edge of the wafer;

urging the wafer against the polishing pad under the action of a first pressure; and

directing a first cluster of controlled flows of fluid into the enclosed fluid volume at a second pressure that exceeds the first pressure, the controlled flows being directed at selected discrete first locations and adjacent to the continuous perimeter, the discrete first locations being selected to provide one of the desired parameters of the removal rate characteristic.

22. A method as recited in claim 21, wherein the discrete first locations are selected with respect to an inflection point as one of the desired parameters of the removal rate characteristic, the inflection point being a location at which a relatively constant CMP removal rate suddenly changes to an increased removal rate; and wherein the discrete first locations are selected to position the inflection point at a predetermined location adjacent to the peripheral edge.

23. A method as recited in claim 22, comprising the further operation of directing a second cluster of controlled flows of fluid into the enclosed fluid volume at a third pressure with a sum of the second and third pressures exceeding the first pressure, the second

cluster of controlled flows being directed at selected discrete second locations between the selected discrete first locations and the continuous perimeter.

24. A method as recited in claim 22, comprising the further operation of controlling the second and third pressures so that with the sum exceeding the first pressure, the third pressure and the second pressure are in a ratio having a value exceeding one to provide a selected given shape of the CMP removal rate characteristic between the inflection point and the peripheral edge of the wafer.

25. A method as recited in claim 23, wherein the operations of directing the first and second clusters of controlled flows comprise controlling amounts of the respective flows of the respective first and second clusters so that an amount of fluid directed into the volume varies with the distance of a particular one of the fluid flows from the continuous perimeter, the variation being to direct into the volume progressively more air from the fluid flows as the fluid flows are positioned closer and closer to the continuous perimeter.